READINESS OF LEARNERS FOR ADMISSION THROUGH ACCREDITATION OF PRIOR EXPERIENTIAL LEARNING: MEASUREMENT MODEL USING CONFIRMATORY FACTOR ANALYSIS

A methodological paper by:
APEL CENTRE

18 December 2017

1. ***Widad Othman***
2. ***Mohamad Afzhan Khan Mohamad Khalil***
3. ***Nor Masita Abd Samad***
4. ***Aznan Ariffin***
5. ***Nurul Amanina Muhamad Jufari***

INTRODUCTION - IMPORTANCE OF APEL

Using experience to get people enrolled in education programmes

it provides wider access to education, hence more individuals will have lifelong learning opportunities in gaining knowledge

it is a way to enhance knowledge society that will contribute in the building of knowledge-economy

PROBLEM STATEMENT

The risk of growing mismatch of job and the qualification of the workforce provides good justification and a timely juncture of introducing Open Entry and RPL in Malaysia

Malaysia aspires to create knowledge society with at least 30% of its people attaining tertiary education by the year 2020 (Awang, 2014)

The concept of open entry, derived from the philosophy of recognition of prior learning (RPL), acknowledges learning gained through formal, non-formal and informal means and allows an alternative access to higher education with less restrictive entry requirements compared to conventional universities (Abdol Latif et al., 2009)

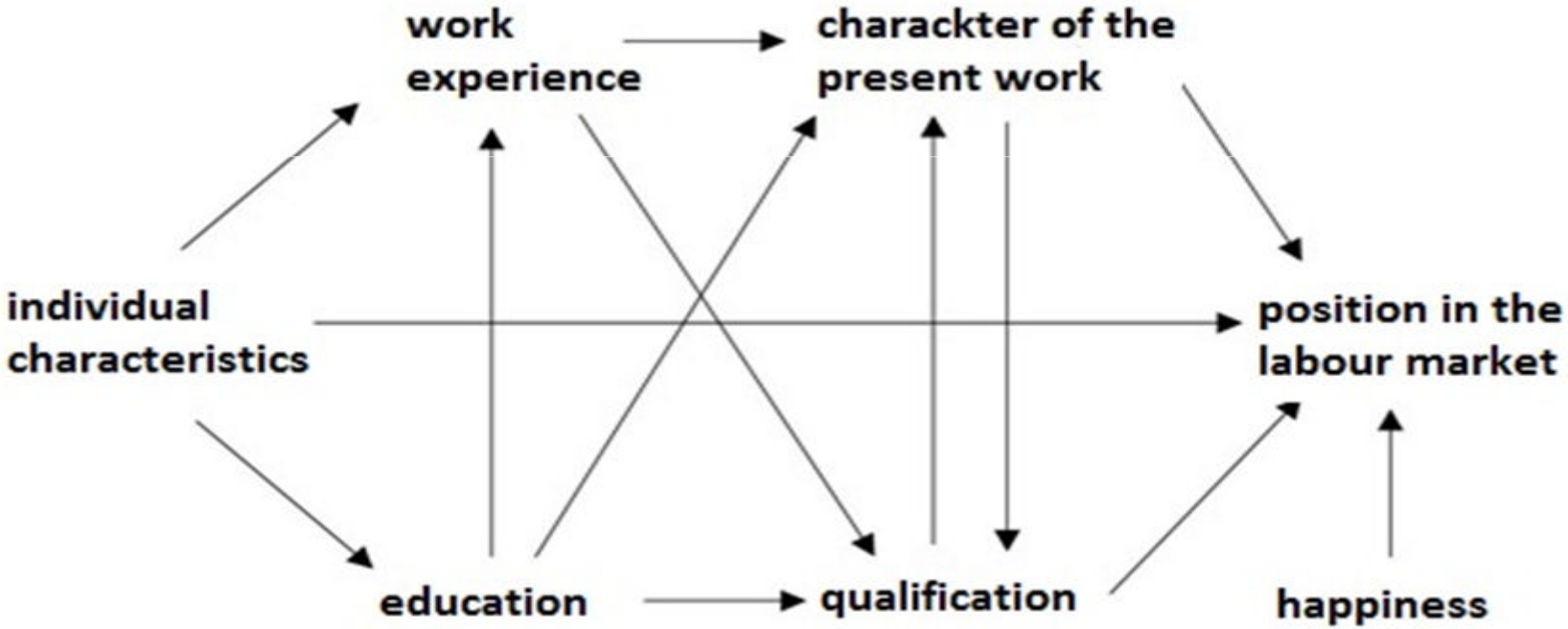
This study is conceptualised based on the premise that potential students must be ready to cope in an open and distance learning (ODL) environment

RESEARCH OBJECTIVES
- A methodological paper

RO1: To develop the constructs that measure readiness of learners to gain admission through APEL

RO2: To validate the constructs that measure readiness of learners to gain admission through APEL

UNDERLYING THEORY- HUMAN CAPITAL THEORY



THE MEASUREMENT MODEL: CONTENT OF INSTRUMENT

COMPUTER AND INTERNET

A	I access the Internet either from home / office
B	It is difficult for me to study without the Internet
C	I use the Internet at least once a day
D	Browsing for information on the Internet is easy
E	I am comfortable using the Internet for my studies

SUPPORT FROM FAMILY AND EMPLOYER

A	My family is my source of encouragement and support
B	It makes my family proud when I am a University graduate
C	My employer is aware that I am pursuing my studies
D	I get time off from my employer to study
E	I can cope with pressures from my work, family and studies

TIME MANAGEMENT

A	During my free time, studying is among my top priority
B	I have at least 6 hours in a week to study
C	I can take time off from work to study
D	Studying will not affect my work / family time
E	I have extra time for leisure activities

PRIOR LEARNING

A	The programme of study is related to my work experience
B	Having work experience complements my studies
C	I can apply knowledge from work to my assignments
D	I can put theories that I learnt into practice at work
E	Having prior learning makes studying easier

LEARNING EFFICACY

A	I have the ability to be successful in my studies
B	I am responsible for the success of my own studies.
C	I will try again even if I don't succeed the first time
D	I need to prove to myself that I am a capable person
E	I need to get good grades for each of my assessments

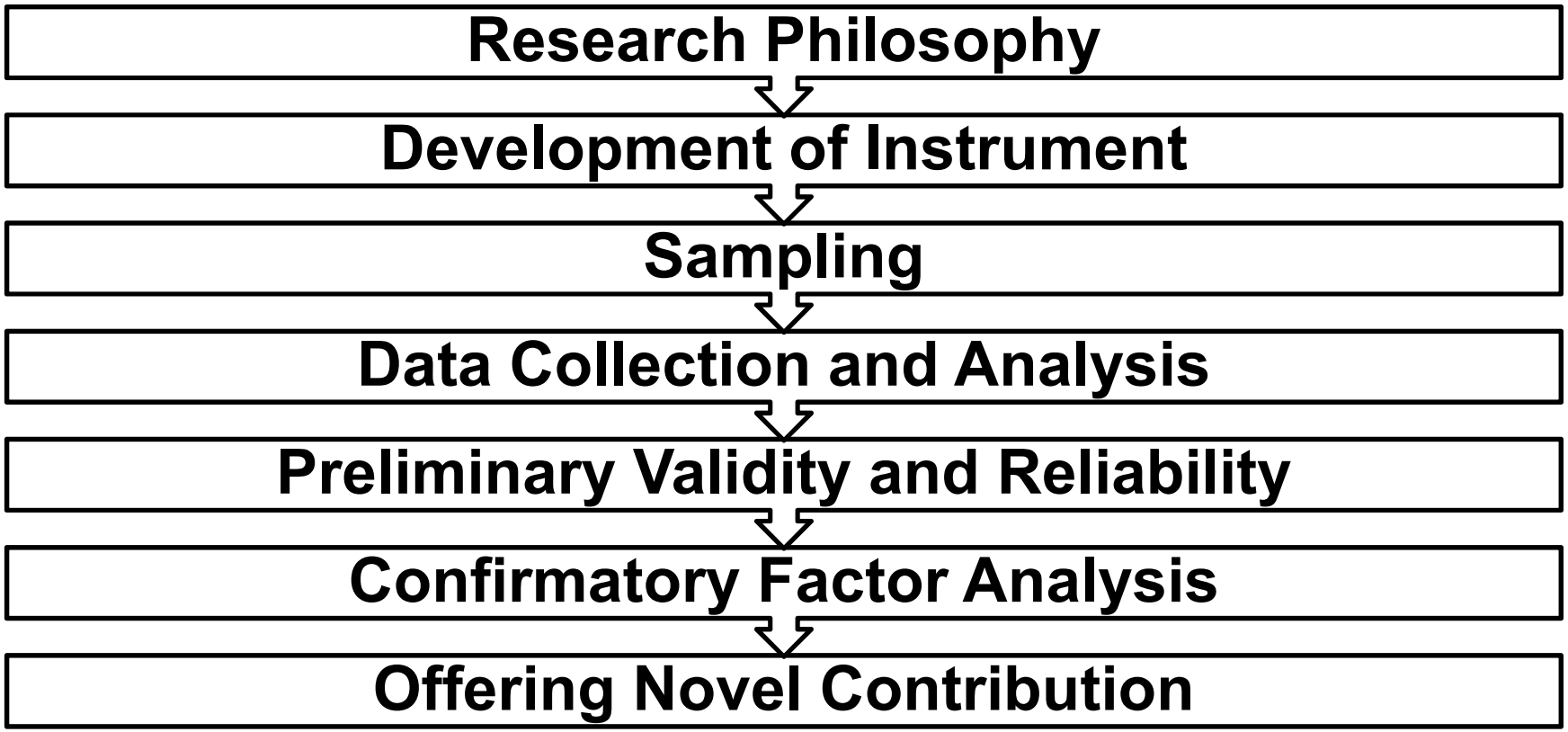
LEARNING ATTITUDE

A	It is more challenging to study when you are an adult
B	I will ask for help if I am having a problem
C	It is important to prepare myself before classes
D	Having an open mind will make learning more effective
E	Reading is one of my favourite past time

GOAL ORIENTATION

A	One of my biggest dream is to be a University graduate
B	Having a degree makes me more valuable and competitive
C	A degree will open doors of opportunities for me in life.
D	A degree will increase my knowledge in the area that I pursue
E	A degree will earn me respect from others

RESEARCH DESIGN AND METHODOLOGY



RESEARCH DESIGN AND METHODOLOGY

Krejcie and Morgan (1970)

384 respondents to generalize

At least 300 usable responses is sufficient and representative to perform confirmatory factor analysis (Barrett, 2007; Maydeu-Olivares & Bockenholt, 2005; Hair et al., 2010).

N for this paper = 400 respondents from learning centres. Data was collected in 2014 and compiled recently by APEL Centre from all the LCs

OBSERVED RELIABILITY AND SAMPLING ADEQUACY

Readiness of Learners	Cronbach Alpha (internal consistency)	Kaiser Meyer Olkin (Check on sampling adequacy)
	Above 0.70 (Nunnally, 1978)	Above 0.50 (Kaiser, 1974)
Computer and Internet	0.72	0.77
Support from family and employer	0.73	0.69
Time management	0.80	0.80
Prior learning	0.90	0.87
Learning efficacy	0.94	0.86
Learning attitude	0.78	0.79
Goal orientation	0.88	0.84

CONFIRMATORY FACTOR ANALYSIS

INDEX		IMPORTANCE
RMSEA	Root mean square error of approximation	Justifies the accuracy of a model fit (Steiger & Lind, 1980). To check whether parameters chosen will fit the population covariance matrix.
GFI	Goodness fit index	The goodness of fit index (GFI) is a measure of fit between the hypothesized model and the observed covariance matrix (Hooper et al et al., 2010)
AGFI	Adjusted goodness fit index	Adhoc measure of descriptive adequacy of the model (Bryne, 1994)
CFI	Comparative fit index	Compare sample covariance matrix with the null model (Hooper et al., 2010)
TLI	Tucker Lewis index	TLI replaces NFI if sample size is small. These procedures measure relationship between interest model and null model (Oke et al., 2010)
NFI	Normed fit index	
CHI SQUARE	Chi square	Model is correct in population (Widaman & Thompaon, 2003)

CONFIRMATORY FACTOR ANALYSIS

INDEX	Computer and internet	Support from family and employer	Time management	Prior learning	Learning efficacy	Learning attitude	Goal orientation	EVALUATION
RMSEA	0.08	0.14	0.01	0.09	0.06	0.08	0.10	good fit < 0.10 (Chinda & Mohamad, 2008; Hair et al., 2010) mediocre fit = 0.08 (MacCullum et al., 1999)
GFI	0.98	0.97	0.99	0.97	0.99	0.98	0.97	No specific cutoff recommendation provided (Bagozzi & Yi, 2012)
AGFI	0.95	0.86	0.99	0.93	0.97	0.95	0.92	Acceptable fit > 0.80 (Byrne, 2010; Hu & Bentler, 1999)
CFI	0.97	0.95	0.99	0.99	0.99	0.98	0.98	good fit > 0.90 (Chinda & Mohamad, 2008; Byrne, 2010 Hu & Bentler, 1999)
TLI	0.94	0.84	0.99	0.97	0.99	0.96	0.97	Good fit = 0.92 (Bagozzi & Yi, 2012) Acceptable fit > 0.80 (Hooper et al., 2008)
NFI	0.96	0.95	0.99	0.98	0.99	0.97	0.98	Good Fit > 0.90 (Byrne, 2010) Acceptable fit 0.60 to 0.90 (Singh, 2009)
Chisq/df	3.54	9.31	0.05	4.30	2.33	3.62	5.59	Good Range 2.00–5.00 (Wheaton et al., 1977; Tabachnick & Fidell, 2007)

RECOMMENDATIONS FOR FUTURE STUDIES

To use this instrument for future data collection

Use of different theories and enrich this instrument

Moderating vs mediating analysis with different variables

SIGNIFICANCE OF THE STUDY